In the Specification:

Please amend the following paragraphs as marked up below to show changes:

[0037] An overall view of the apparatus 10 for increasing the quality of sound from an acoustic source housed within an enclosure as incorporated in a home stereo system and which depicts features of the present invention is set forth in Figure 1. A preferred embodiment of the apparatus 10 includes a hollow enclosure 11, an acoustic guide 12, at least one leg 13, an acoustic source 14, a pair of acoustic paths 15, a pair of acoustic inlet openings 20, 20', and a pair of acoustic exit openings 21, 21'. It will be appreciated by those skilled in the art that the present invention may be incorporated into a variety of sound systems to include vehicle stereos, portable stereos, home entertainment systems, amplifiers, and musical instruments (*e.g.*, keyboard instruments such as pianos).

[0041] In the preferred embodiment of Figure 4 the first end 31 of the acoustic guide 12 is spaced from the acoustic source 14. This preferred embodiment includes an empty chamber 33 defined by the interior surface 24 of the hollow enclosure 11, the first end 22 of the hollow enclosure, and the first end 31 of the acoustic guide 12. Advantageously, the empty chamber 33 provides sufficient damping of, for example, a speaker cone of the acoustic source 14. Preferably the pair of acoustic inlet openings 20, 20' are spaced less than 6 inches from a diaphragm of the acoustic source 14 assuming a medium size driver (*i.e.*, 10 inch subwoofer). Stated differently, the pair of acoustic inlet openings 20, 20' is preferably spaced less than 2 inches from the rear of the driver. Accordingly, it is possible to construct the present invention such that the length of the hollow enclosure 11 is approximately 22 inches in length. It will be understood that the spacing will vary depending upon the size and type of subwoofer provided.

[0044] The pitch P of the acoustic guide 12 facilitates the transmission of a variety of acoustic waves 34, 34′ (*see* Figure 4). As described above and with reference to Figure 4, "pitch" P refers to the distance from any point on an edge 16 of the double helix-shaped acoustic guide 12 to the corresponding point on an adjacent edge 17 measured parallel to the longitudinal axis of the acoustic guide 12. In a preferred embodiment, the pitch P of the acoustic guide 12 is between about .0625 to 4 inches (*i.e.*, .15875 to 10.16 centimeters (cm), respectively) and more preferably between about 1 to 2 inches (*i.e.*, 2.54 to 5.08 cm).

[0045] Referring to Figures 1 and 3, the first end 31 of the acoustic guide 12 defines the pair of acoustic inlet openings 20, 20′. The pair of acoustic inlet openings 20, 20′ is capable of admitting acoustic waves 34, 34′ produced by the acoustic source 14 into the pair of acoustic paths 15. Preferably, the acoustic source 14 is a driver, but it will be understood that the acoustic source may be any number of devices that produce acoustic waves (*e.g.*, resonator). In a preferred embodiment, the acoustic source 14 is secured to the first end 22 of the hollow enclosure 11. With reference to the orientation of the acoustic guide 12 depicted in Figure 4, the pair of acoustic inlet openings 20, 20′ is preferably oriented substantially coplanar with respect to one another. Nevertheless, it will be understood that the pair of acoustic inlet openings 20, 20′ may be oriented in a non-coplanar configuration. The orientation of the pair of acoustic inlet openings 20, 20′ depends upon the type of sound (*e.g.*, bass) upon which the operator is trying to improve.

[0046] The second end 32 of the acoustic guide 12 defines the pair of acoustic exit openings 21, 21′ as illustrated in Figures 2 and 4. The pair of acoustic exit openings 21, 21′ is in communication with the pair of acoustic inlet openings 20, 20′ and the pair of acoustic paths 15. Advantageously, the pair of acoustic inlet openings 20, 20′ separate acoustic waves 34, 34′ emanating from the acoustic source 14 and direct the acoustic

waves 34, 34′ along the pair of acoustic paths 15 to the acoustic exit openings 21, 21′. In the preferred embodiment of Figure 4, the pair of acoustic exit openings 21, 21′ is oriented substantially coplanar with respect to one another. Nevertheless, it will be understood that the pair of acoustic exit openings 21, 21′ may be oriented in a non-coplanar configuration. The orientation of the pair of acoustic exit openings 21, 21′ depends upon the type of sound (*e.g.*, bass) upon which the operator is trying to improve.

[0047] Still referring to Figure 4, the pair of acoustic exit openings 21, 21′ is preferably oriented substantially coplanar with respect to the second end 23 of the hollow enclosure 11. It will be understood, however, that the pair of acoustic exit openings 21, 21′ may be oriented in a non-coplanar relationship with respect to the second end 23 of the hollow enclosure 11. The orientation of the pair of acoustic exit openings 21, 21′ with respect to the second end 23 of the hollow enclosure 11 depends upon the type of sound upon which the operator is trying to improve.

[0048] The pair of exit openings 21, 21′ may also include webbing 35 that prevents the admission of debris into the exit openings 21, 21′ (*see* Figures 1 and 2). The webbing 35 is preferably formed from foam, but may be formed from wire or textile material (*i.e.*, woven or non-woven textile material).

[0049] As illustrated in Figure 4 depicting a preferred embodiment, the pair of acoustic inlet openings 20, 20′ and the pair of acoustic exit openings 21, 21′ are oriented substantially parallel to one another. Further, as configured in the preferred embodiment, the pair of acoustic inlet openings 20, 20′ and the pair of acoustic exit openings 21, 21′ are oriented in a plane that is substantially perpendicular to the path of acoustic waves 34, 34′ produced by the acoustic source 14 (*see* Figure 4). This configuration minimizes the travel distance necessary for the acoustic waves 34, 34′ to reach the pair of acoustic inlet

openings 20, 20', thereby reducing the likelihood of diminished sound quality. Moreover, this design reduces the number of surfaces off of which the waves 34, 34' must reflect in order to reach the pair of acoustic inlet openings 20, 20', thereby minimizing out-of-phase reflection of the acoustic waves 34, 34'.

[0050] As shown in Figures 1 and 4, the acoustic source 14 is secured to the first end 22 of the hollow enclosure 11. In operation, acoustic waves 34, 34' emanate from the rear of the acoustic source 14 and travel directly into the pair of acoustic inlet openings 20, 20'.

[0051] In an alternative embodiment illustrated in Figure 6, the pair of acoustic inlet openings 20, 20' and the pair of acoustic exit openings 21, 21' (*see* Figures 2 and 3) may be oriented in a plane that is substantially parallel to the path of acoustic waves 34, 34' produced by the acoustic source 14. In the alternative embodiment, the acoustic source 14 is secured to one side of the hollow enclosure 11. Accordingly, the acoustic waves 34, 34' emanate from the rear of the acoustic source 14, reflect against the sides of the first end 22 of the hollow enclosure 11, and then into the pair of acoustic inlet openings 20, 20'.

[0052] Preferably, the pair of acoustic inlet openings 20, 20' and the pair of acoustic exit openings 21, 21' are substantially semi-circular in shape. Nevertheless, it will be understood that the pair of acoustic inlet openings 20, 20' and acoustic exit openings 21, 21' may be any number of shapes to include circular, square, triangular, octagonal, elliptical, or hexagonal.

[0053] The acoustic guide 12 defines the pair of acoustic paths 15 in the shape of a double helix. The pair of acoustic paths 15 is positioned between the pair of acoustic inlet openings 20, 20' and the pair of acoustic exit openings 21, 21'. Accordingly, the

pair of acoustic paths 15 directs acoustic waves 34, 34' from the pair of acoustic inlet openings 20, 20' to the pair of acoustic exit openings 21, 21'. As depicted in Figure 4, the radius of each acoustic path 15 is substantially equal to the radius of the hollow enclosure 11. Advantageously, the acoustic paths 15 maximize the total air mass of the acoustic paths without adversely affecting the overall size of the enclosure.

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